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motion sensor means configured to detect motion of the cantilever.

REMARKS

Claims pending in the instant application are numbered 1-33. Claims 1-33 presently stand rejected. Claims 1, 23, and 33 have been amended. The claim amendments clarify the invention and are not intended to change the scope of the claims. The Applicants respectfully request reconsideration of the present application as amended.

35 U.S.C. § 112 Rejection

In the July 2, 2001 Office Action, claims 1-33 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, as amended, expressly recites a first positioning unit mounted onto a probe station platform of a probe station so as to provide *additional* probing capability to the probe station. As summarized on page 7, lines 10-20, of the Applicants' specification, the presently claimed invention provides a way to preserve a user's investment in a traditional probe station. The present invention can be quickly and easily added to a traditional probe station, thereby improving imaging and probe placement to the sub-micron and "deep sub-micron" level and allowing low-loading electrical measurements.

Thus, the Applicants respectfully submit that the instant section 112 rejections have been overcome. Independent claims 23 and 30 particularly point out and distinctly claim the subject matter which the Applicants' regard as the invention for at least the same reasons as claim 1. The Applicants further note that claims 2-22, 24-29, and 31-33 are dependent claims

and particularly point out and distinctly claim the subject matter which the Applicants' regard as the invention for at least the same reasons as their respective independent base claims.

35 U.S.C. § 103 Rejection

In the July 2, 2001 Office Action, claims 1, 2, 4, 6-9, 15-18, 23-27, 30 and 33, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindsay et al., US Patent Number 5,983,712, in view of Applicants' admitted prior art.

Claim 1 of the Applicants' invention expressly recites a cantilever, having a tip, which is attached to a second positioning unit, which is attached to a probe arm, which is attached to a first positioning unit. A motion sensor is configured to detect motion of the cantilever. Claim 1, as amended, expressly recites that the claimed first positioning unit is mounted onto a probe station platform of a probe station so as to provide *additional* probing capability to the probe station. The first positioning unit can be added to an existing probe station that already has some probing capabilities.

Lindsay is directed to an atomic force microscope and method of operation. In the July 2, 2001 Office Action, actuator 1 in FIG. 3A of Lindsay is characterized as a "first positioning unit actuator held in a fixed position." Lindsay fails to disclose, teach or fairly suggest a probe apparatus including a first positioning unit that is mounted onto a probe station platform of a probe station so as to provide *additional* probing capability to the probe station, as expressly recited in the Applicants' present claims.

Independent claims 23 and 30 distinguish over Lindsay for the same reasons as claim 1. Claim 23, as presently amended, recites "mounting a probe apparatus to a probe station platform of a probe station so as to provide *additional* probing capability to the probe station." Claim 30, as amended, expressly recites "first positioning means for coarse

positioning mounted to a probe station platform of a probe station so as to provide *additional* probing capability to the probe station.” Dependent claims 2, 4, 6-9, 15-18, 24-27 and 33 are dependent claims and distinguish for at least the same reasons as their respective independent base claims in addition to adding further limitations of their own.

Furthermore, claims 3, 5, 10-14, 19-22, 28, 29, 31 and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindsay et al. as applied to claims 1, 23 and 30 above, in further view of Hellemans et al., US Patent Number 6, 091,248.

Hellemans is directed to a method for measuring the electrical potential in a semiconductor element. Hellemans describes an electrometer 10, which measures the electrical potential through probe 3 of the semiconductor device 1. Hellemans discloses in column 4, lines 45-50, that the semiconductor element 1 is mounted movable three-dimensionally with a piezo-crystal 2. Thus, the force or distance of probe 3 relative to the semiconductor element 1 is adjusted or calibrated by moving the semiconductor element 1 with piezo-crystal 2.

The Applicants respectfully submit that Hellemans fails to disclose, teach or fairly suggest that that the piezo-crystal 2 is mounted onto a probe station platform of a probe station so as to provide *additional* probing capability to the probe station, as expressly recited in the presently claimed invention. Thus, the Applicants respectfully submit that Hellemans also fails to disclose, teach or fairly suggest a first positioning unit that is mounted onto a probe station platform of a probe station so as to provide *additional* probing capability to the probe station.

The Applicants further note that claims 3, 5, 10-14, 19-22, 28, 29, 31 and 32 are dependent claims, which distinguish for at least the same reasons as their respective independent base claims in addition to adding further limitations of their own.

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Accordingly, both Lindsay and Hellemans, whether taken singularly or in combination, fail to disclose, teach or fairly suggest at least one or more expressly recited elements of the presently claimed invention. Therefore, the Applicants respectfully request that the instant section 103 rejections, as well as the instant section 112 rejections, be withdrawn and that the presently claimed invention is in condition for allowance.

The Applicants respectfully request that a timely Notice of Allowance be issued in this case.

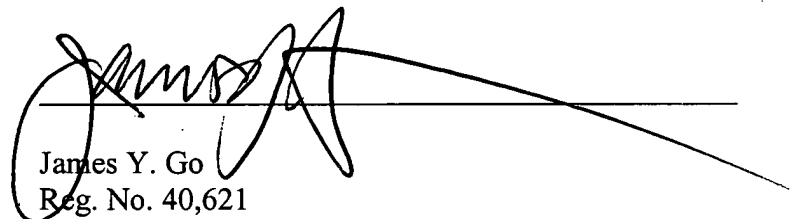
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Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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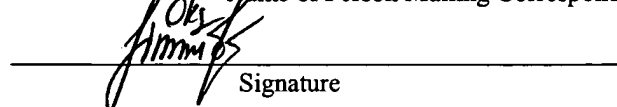
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please amend claims 1, 23, and 30 as follows:

1. (Amended) A probe apparatus, comprising:

a first positioning unit [configured] to be [optionally added] mounted onto a probe station platform of a probe station so as to provide additional probing capability to the probe station;

a probe arm attached to the first positioning unit;

a second positioning unit attached to the probe arm;

a cantilever attached to the second positioning unit, the cantilever having a tip, the first and second positioning units configured to position the tip over a device under test (DUT), the probe apparatus including an electrical signal path between the tip of cantilever and probe station user instruments; and

a motion sensor configured to detect motion of the cantilever.

23. (Amended) A method for probing a device under test (DUT), comprising:

[optionally adding] mounting a probe apparatus to a probe station platform of a probe station so as to provide additional probing capability to the probe station;

coarsely positioning with a first positioning unit of the probe apparatus a tip of a cantilever of the probe apparatus over a surface of the DUT;

finely positioning with a second positioning unit attached to the first positioning unit the tip of the cantilever of the probe apparatus over the surface of the DUT; and

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sensing motion of the cantilever.

30. (Amended) A probe apparatus, comprising:

first positioning means for coarse positioning [configured] mounted to [be optionally added onto] a probe station platform of a probe station so as to provide additional probing capability to the probe station;

a probe arm attached to the coarse positioning means;

second positioning means for fine positioning attached to the probe arm;

a cantilever attached to the second positioning unit, the cantilever having a tip, the first and second positioning units configured to position the tip over a device under test (DUT), the probe apparatus including an electrical signal path between the tip of cantilever and probe station user instruments; and
motion sensor means configured to detect motion of the cantilever.

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